



Billing Code 4910-13

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. FAA-2018-0469; Special Conditions No. 25-727-SC]

Special Conditions: Bombardier Inc. Model BD-700-2A12 and Model BD-700-2A13 Airplanes; Autobrake System Structural Loads

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions; request for comments.

SUMMARY: These special conditions are issued for the Bombardier Inc. Model BD-700-2A12 and Model BD-700-2A13 airplanes. This airplane will have a novel or unusual design feature when compared to the state of technology envisioned in the airworthiness standards for transport category airplanes. This design feature is an autobrake system that allows earlier braking at landing without pedal input from the pilot. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for this design feature. These special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

DATES: This action is effective on Bombardier on [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]. Send comments on or before [INSERT DATE 45 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: Send comments identified by Docket No. FAA-2018-0469 using any of the following methods:

- *Federal eRegulations Portal:* Go to <http://www.regulations.gov/> and follow the online instructions for sending your comments electronically.
- *Mail:* Send comments to Docket Operations, M-30, U.S. Department of Transportation (DOT), 1200 New Jersey Avenue, SE., Room W12-140, West Building Ground Floor, Washington, DC, 20590-0001.
- *Hand Delivery or Courier:* Take comments to Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- *Fax:* Fax comments to Docket Operations at 202-493-2251.

Privacy: The FAA will post all comments it receives, without change, to <http://www.regulations.gov/>, including any personal information the commenter provides. Using the search function of the docket Web site, anyone can find and read the electronic form of all comments received into any FAA docket, including the name of the individual sending the comment (or signing the comment for an association, business, labor union, etc.). DOT's complete Privacy Act Statement can be found in the *Federal Register* published on April 11, 2000 (65 FR 19477-19478).

Docket: Background documents or comments received may be read at <http://www.regulations.gov/> at any time. Follow the online instructions for accessing the docket or go to Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Mark Freisthler, Airframe & Cabin Safety Section, AIR-675, Transport Standards Branch, Policy and Innovation Division, Aircraft Certification Service, Federal Aviation Administration, 2200 South 216th Street, Des Moines, Washington 98198; telephone and fax 206-231-3207; e-mail Mark.Freisthler@faa.gov.

SUPPLEMENTARY INFORMATION: The FAA has determined that notice of, and opportunity for prior public comment on, these special conditions is impracticable because these procedures would significantly delay issuance of the design approval and thus delivery of the affected airplanes.

In addition, the substance of these special conditions has been published in the *Federal Register* for public comment in several prior instances with no substantive comments received. The FAA, therefore, finds it unnecessary to delay the effective date and finds that good cause exists for making these special conditions effective upon publication in the *Federal Register*.

Comments Invited

We invite interested people to take part in this rulemaking by sending written comments, data, or views. The most helpful comments reference a specific portion of the special conditions, explain the reason for any recommended change, and include supporting data.

We will consider all comments we receive by the closing date for comments. We may change these special conditions based on the comments we receive.

Background

On May 30, 2012, Bombardier Inc. (Bombardier) applied for an amendment to Type Certificate No. T00003NY to include new Model BD-700-2A12 and Model BD-700-2A13 airplanes. These airplanes, which are derivatives of the BD-700 series airplanes currently approved under Type Certificate No. T00003NY, are marketed as the Bombardier Global 7000 and Global 8000, respectively. These airplanes are twin engine, transport category, executive interior business jets with a maximum certified passenger capacity of 19. The maximum takeoff weight for the Model BD-700-2A12 and Model BD-700-2A13 is 106,250 pounds and 104,800 pounds, respectively.

Type Certification Basis

Under the provisions of title 14, Code of Federal Regulations (14 CFR) 21.101, Bombardier must show that the Model BD-700-2A12 and Model BD-700-2A13 airplanes meet the applicable provisions of the regulations listed in Type Certificate No. T00003NY, or the applicable regulations in effect on the date of application for the change, except for earlier amendments as agreed upon by the FAA.

If the Administrator finds that the applicable airworthiness regulations (i.e., 14 CFR part 25) do not contain adequate or appropriate safety standards for the Bombardier Model BD-700-2A12 and Model BD-700-2A13 airplanes because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

Special conditions are initially applicable to the model for which they are issued. Should the type certificate for that model be amended later to include any other model that incorporates the same novel or unusual design feature, or should any other model

already included on the same type certificate be modified to incorporate the same novel or unusual design feature, these special conditions would also apply to the other model under § 21.101.

In addition to the applicable airworthiness regulations and special conditions, the Bombardier Model BD-700-2A12 and Model BD-700-2A13 airplanes must comply with the fuel vent and exhaust emission requirements of 14 CFR part 34 and the noise certification requirements of 14 CFR part 36.

The FAA issues special conditions, as defined in 14 CFR 11.19, in accordance with § 11.38, and they become part of the type certification basis under § 21.101.

Novel or Unusual Design Features

The Bombardier Model BD-700-2A12 and Model BD-700-2A13 airplanes will incorporate the following novel or unusual design feature:

The autobrake system on the Bombardier Model BD-700-2A12 and Model BD-700-2A13 airplanes is a pilot-selectable function that allows earlier braking at landing without pedal input from the pilot. When the pilot arms the autobrake system before landing, the system automatically commands braking when the main wheels touch down. This might cause a high nose gear sink rate, and potentially higher gear and airframe loads than would occur with a traditional braking system.

Discussion

These special conditions define a landing pitchover condition that accounts for the effects of the autobrake system. The special conditions define the airplane configuration, speeds, and other parameters necessary to develop airframe and nose gear loads for this

condition. The special conditions require that the airplane be designed to support the resulting limit and ultimate loads as defined in § 25.305, “Strength and deformation.”

These special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

Applicability

As discussed above, these special conditions are applicable to the Bombardier Inc. Model BD-700-2A12 and Model BD-700-2A13 airplanes. Should Bombardier apply at a later date for a change to the type certificate to include another model incorporating the same novel or unusual design feature, these special conditions would apply to that model as well.

Conclusion

This action affects only a certain novel or unusual design feature on Bombardier Model BD-700-2A12 and Model BD-700-2A13 airplanes. It is not a rule of general applicability.

List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

Authority Citation

The authority citation for these special conditions is as follows:

Authority: 49 U.S.C. 106(f), 106(g), 40113, 44701, 44702, 44704.

The Special Conditions

Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued as part of the type certification basis for Bombardier Model BD-700-2A12 and Model BD-700-2A13 airplanes.

Autobraking System Structural Loads.

A landing pitchover condition must be addressed that takes into account the effect of the autobrake system. The airplane is assumed to be at the design maximum landing weight, or at the maximum weight allowed with the autobrake system on. The airplane is assumed to land in a tail-down attitude at the speeds defined by § 25.481. Following main gear contact, the airplane is assumed to rotate about the main gear wheels at the highest pitch rate generated by the autobrake system. This is considered a limit load condition from which ultimate loads must also be determined. Loads must be determined for a critical fuel and payload distribution and centers of gravity. Nose gear loads, as well as airframe loads, must be determined. The airplane must support these loads as described in § 25.305.

Issued in Des Moines, Washington, on May 23, 2018.

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